

Neighborhood Traffic Control Planning for Small Cities

WILLIAM TROE AND LINDA HARTMAN

Development and implementation of neighborhood traffic control plans are becoming common place for larger metropolitan areas. However, many of the same concerns which larger communities have with through traffic and higher speed traffic along local streets in residential areas are also observed in smaller communities. The most significant difference between smaller and larger communities is the sensitivity to various levels of traffic. What may be a perfectly acceptable level of traffic through a residential area in a large city is not likely acceptable in Casper. The traffic and speeds associated with the thresholds of acceptability in communities similar to Casper still require a basis in traffic engineering practice. In order to facilitate review of the state of the practice the MPO retained HDR Engineering to assist in organizing and educating the community in traffic calming practice and measures.

STUDY ELEMENTS

The purpose of the study was to:

- Prepare a Neighborhood Traffic Control Application Handbook for the MPO
- Provide outreach to the MPO, city staff and the community on What is Traffic Calming
- Establish local guidelines for when it may be appropriate to implement a program in a neighborhood
- Work with the MPO and the city to identify a pilot neighborhood for study, establish a control plan and implement the plan elements
- Provide the MPO and the Ad Hoc Traffic Control Committee with the tools required to continue the program.

INTRODUCTION

Through the long range transportation planning process, the Casper (Wyoming) Area Metropolitan Planning Organization (MPO) established a set of functional classification criteria. A total of 14 elements (1) were reviewed in establishing where in the functional hierarchy a specific corridor would fall. An issue associated with using such a large number of criteria to attempt to provide a definitive description of the purpose of a street, is that establishing a

unique definition of each of the classifications becomes very difficult. Application of each of the criteria results in creation of a general hierarchy, however, the resulting scale does not contain distinct thresholds for which crossing results in migration to another classification.

Conflicts between the classified function of a street and the actual function arise when motorists observe a different level of utility in using the corridors than was assumed in the long range planning functions. In general for a community the size of Casper, the significance of the conflicts created as a result of providing adjacent land access directly from an arterial is lower than the significance of the conflicts associated with using local streets as a through route. To address the conflicts of through traffic using local street (residential neighborhood streets), the MPO has undertaken the task of conducting a *Neighborhood Traffic Control Study*.

Neighborhood Traffic Control Study Goals

The goals of the *Neighborhood Traffic Control Study* are:

- To establish a set of procedures and guidelines which the MPO and/or each of the local jurisdictions (including Natrona County), can follow in assisting neighborhoods in implementation of control measures
- Identify the universe of appropriate traffic control concepts from which the MPO and neighborhood groups can select for implementation
- Provide a set of guidelines for determining whether a traffic problem exists within a specific neighborhood.

Neighborhood Traffic Control Committee Representation

Representation on the committee by staff from the police department, the fire department and public services is essential to the success of the neighborhood traffic control program. Historically in communities that have attempted to implement a program of traffic calming measures, the success of the plan rests very much on staff from these city departments. Implementation (actual construction) of the calming measures typically is the responsibility of the Public Services Department. The Fire Department and Police Department have historically looked at calming measures from a different viewpoint than residents/stakeholders and traffic engineers. The emergency response personnel viewpoint focuses more on with impacts to response times associated with the calming measures. Reducing traffic volumes in residential areas has the potential to improve response times, but many of the most effective calming

W. Troe, HDR Engineering, Inc., 8404 Indian Hills Drive, Omaha, Nebraska 68114. L. Hartman, Casper Area MPO, 200 North David Street, Casper, Wyoming 82601.

techniques tend to result in slightly higher response times to area residences and businesses. Participation by these groups ensures:

- That any recommended calming measures requiring construction, have received internal department approvals prior to the plan being sent to the Councils and the MPO Policy Committee for approval. Each of the departments from which approvals are required are represented on the ad hoc committee.
- The “hard” questions of “Are the measures needed, will the measures likely result in the desired outcome, and will implementation of the measures adversely impact emergency vehicle response times?” are asked.

NEIGHBORHOOD TRAFFIC CONTROL PLAN IMPLEMENTATION PROCESS

The intent of establishing a neighborhood traffic control plan and implementation of design and operating concepts focusing on the neighborhood is based in the following goals of the program:

- Improving safety/comfort for pedestrians, bicyclists and motorists through controlling vehicle operating speeds and minimizing through traffic in residential neighborhoods
- Avoid neighborhood intrusion through providing for and maintaining acceptable levels of service on *arterials* and *collectors*. This is completed through the long range planning process.

Through working with local planning and public works staff, and through researching neighborhood traffic control policies and plans implemented and/or studied for other communities, a set of

guidelines for implementation of a plan in Casper were developed. The intent of the program is to address traffic issues on local streets in residential neighborhoods. The program is not intended to address congestion or functional classification issues associated with collector or arterial roadways. Those issues are more readily addressed through the long range transportation planning process. As a means of assisting in defining the types of roadways included within this program the following checks have been developed:

- Is the street functionally classified as a collector or arterial street?
- Is the street a part of the official truck route map?
- Does the street have direct access to the interstate?
- Does the street provide more than two through lanes, or include turn lanes?

If the answer to each of these questions is NO, it is likely reasonable and feasible to include the corridor in a neighborhood traffic control study. The general process for assessing the need, determining the appropriate set of concepts to achieve a goal and providing for local input is displayed in Figure 1. The process can essentially be divided into three phases:

- Project Initiation/Problem Definition
- Alternatives Analysis/Recommendations
- Implementation

Project Initiation/Problem Definition

The primary purposes of the initial stage of the neighborhood traffic control plan is to provide education to the local residents about

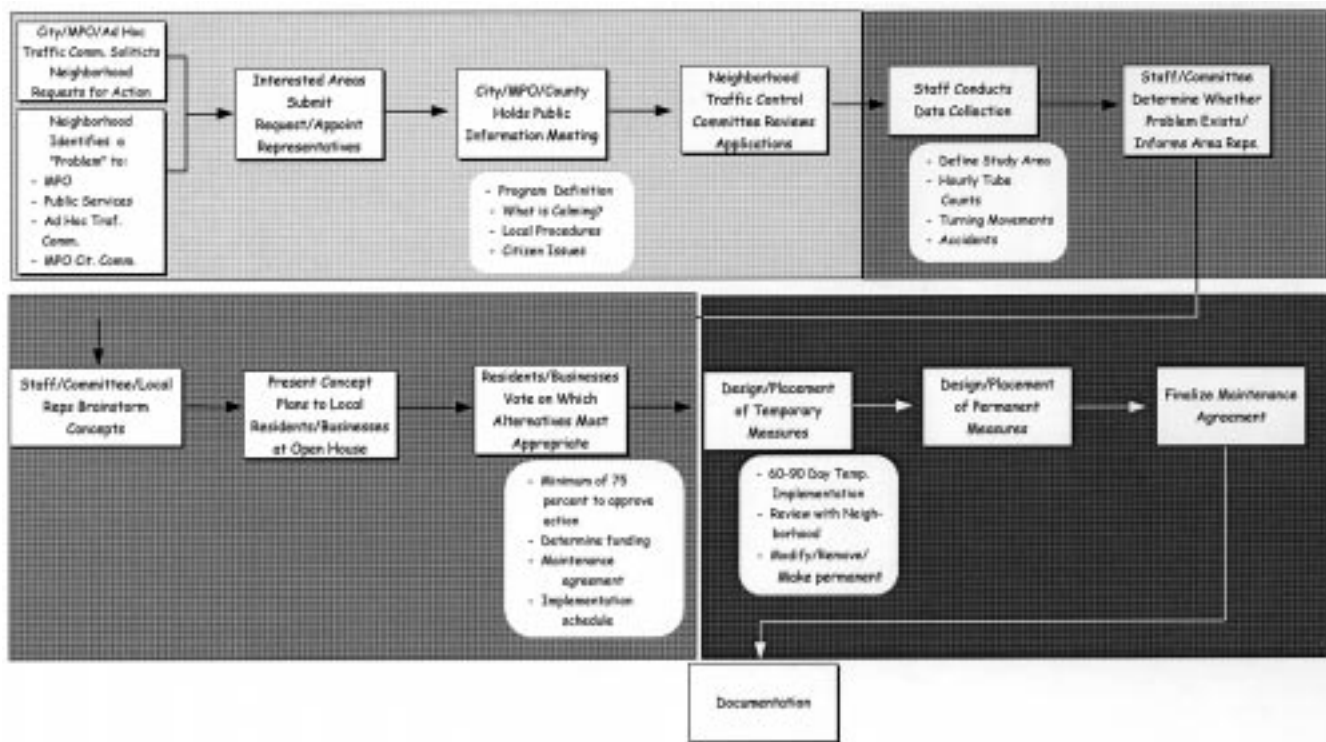


FIGURE 1 Neighborhood traffic control planning process.

the plan and to gather information about the particular issues and traffic operations in specific areas. The key elements of the initial stage are documented below.

Request for Action

It is likely that the number of neighborhood organizations or associations desiring action by the cities or county to provide relief for unwanted traffic in residential areas will outpace the ability to provide, or assist in providing services. Which residential areas desire agency assistance is not necessarily a decision which can be made by city or county staff. Thus, a process for identifying the areas which desire assistance was developed. The alternatives reviewed in the selection process included:

- On a *semi-annual* basis, a notice of intent to address neighborhood traffic issues will be posted by the Ad Hoc Traffic committee. Through the request for action, local associations and organization will be invited to submit a request for study of their particular neighborhood or subarea of interest.
- A representative or group of residents/stakeholders within the neighborhood requests action through the Public Services department. Currently, complaints/comments on neighborhood traffic issues (speeding/traffic/accidents) are brought up to police personnel, Public Services personnel, council members, etc. In general, comments which are brought up to police officers are forwarded to the Public Services department staff.
- A representative or group of residents/stakeholders within the neighborhood requests action through the City Council.

Data Collection

For each of the neighborhoods where an application or request for study was received, basic traffic and travel data would be collected in order to allow staff to determine whether a significant problem does or does not exist. The basic traffic data to be collected includes:

- Hourly traffic counts using mechanical tube counters set by city staff
- Accident data for the latest three-year period
- Number of residents adjacent to each corridor in the study area
- Summary of the 85th percentile speeds through the corridors in the study area.

Neighborhood Meetings/Workshops

Through the implementation process the Ad Hoc Neighborhood Traffic Control Committee would advertise and host a series public information meeting or workshops. The purpose of the meetings would be to:

- Provide local residents and property owners with a definition of the program
- Define what is neighborhood traffic calming
- Provide an outline of the local implementation procedures
- Gather information on local citizen issues.

Problem Definition

The purpose of this step in the problem identification process is provide a first level of screening in which the question of whether a problem which can be alleviated through implementation of traffic calming measures exists or not. In general, perceived neighborhood traffic problems can be categorized into one or a combination of the following:

- Traffic volume problem
- Vehicle speed problem
- Accident problem

Through review of the alternate methods of determining whether a traffic problem exists is has been recommended that the use of the traffic volume threshold and the speed threshold be used as the primary descriptors. The traffic noise, pedestrian activity and accident indices would be used more as support material to the conclusions drawn through use of the volume and speed indices. Thus, the perceived neighborhood traffic problem would be supported by technical analysis if:

- Traffic volumes observed in the corridor or study area are greater than the calculated "home-based" traffic associated with the residences adjacent to the corridor or within the residential study area
- Observed 85th percentile operating speeds in the corridor exceed 30 MPH for those areas with a posted or prima facie speed limit of 30 MPH or less.

Alternatives Analysis

Through the alternatives analysis the process, the Ad Hoc Traffic Committee, MPO/City staff, emergency response staff and representatives from the study area would meet to discuss the feasibility of the various alternative calming techniques in solving the identified problems. The range of calming techniques that are included in the Casper neighborhood traffic control toolbox, have been developed through review of the successes and failures of devices in other communities (2,3,4,5 6,7,8,9,10,11,12).

Traffic Control Measures Workshops

The process for developing a set of traffic control measures is documented below:

- An initial workshop is held where the techniques included in the toolbox are discussed with representatives from the study area.
- It is unlikely that a neighborhood control plan can be developed for an area through a single workshop. In most case a second workshop would be held to:
 - Review the designs prepared by city or MPO staff
 - Refine the "package" of neighborhood controls to be implemented
 - Establish a schedule for implementation of the neighborhood traffic control measures
 - Establish the roles and responsibilities of staff, Ad Hoc Committee and neighborhood representatives at the neighborhood open house to be held to present the preliminary findings.

Alternatives Open House

Following the alternatives development workshops, an open house will be held for the neighborhood residents. The purpose of this open house to provide local residents with an opportunity to comment on the design concepts developed in the workshops by city, MPO staff, ad hoc traffic committee members and local area representatives.

Implementation

Implementation of ANY neighborhood traffic control measures must have overwhelming support from city/MPO staff, emergency response personnel and residents of the implementation area. Thus, a survey would be distributed at the open house and as part of the open house notice through a door-to-door campaign in the immediate neighborhood. Through questions asked in the survey, the level of support/opposition to the proposed concepts will be gathered. Prior to implementation of the concepts on a temporary basis, a minimum of 75 percent of the adjacent residents/land owners must be in support of the concepts, the means of funding the concepts and the terms of any maintenance agreements.

The public services department has the responsibility of final design of the control concepts. After completion of the final design, public services staff will be responsible for implementation of the measures on a temporary basis.

The proposed control measures will be implemented in the field for a period of 60 to 90 days. After which:

- A survey inquiring about the usefulness and level of support for the measures. As with the initial survey, a minimum of 75 percent of the neighborhood residents must support permanent installation. Through the survey information on small design modifications would also be obtained.
- Traffic count data would be collected by city staff to determine the level of impact associated with implementation of the control measures.
- Vehicle speed data would be collected by city staff to determine the level of impact associated with implementation of the control measures.

Should the minimum level of support from the neighborhood be obtained (75 percent of residents/land owners), permanent installation of the control measures would be scheduled with city public services. At this time any maintenance agreements included with the plan implementation would be finalized and filed with the project documentation.

FINANCING PROPOSED CONTROL MEASURES

Alternatives discussed for funding design, implementation and maintenance of the alternate measure include:

- Funded through local construction/maintenance budgets of the Public Services Department
- Costs for design and construction are funded through creating local assessment districts in the affected area
- Costs for design, construction and maintenance are funded through a combination of city construction/maintenance funds and local assessments
- In low and moderate income areas, design, construction and maintenance costs could be funded through use of Community

Development Block Grant (CBDG) funds.

DOCUMENTATION

The following documentation would be included as part of the neighborhood traffic control plan:

- The request for action published by the MPO and ad hoc committee
- Responses by the neighborhoods to the request for interest
- Traffic, speed and accident data collected as part of the study
- Notes from the alternatives workshops
- Responses to the surveys distributed for to obtain input on the concepts from the neighborhood residents and land owners
- Documentation of the concepts requested to be implemented
- Results of the survey conducted after the temporary implementation period
- Any maintenance agreements developed through the planning process.

KEY FINDINGS OF THE STUDY

Implementation of the neighborhood traffic control planning process is in the early stages. A test neighborhood was selected by the MPO Policy Committee and MPO staff. The neighborhood was selected because of its location in the city and a history of resident complaints about high levels of though traffic and speeding. Through the early stages of implementation a number of findings have been established, including:

- Establish a review committee with representation from public works, emergency services (police/fire) and planning.
- Selection of local representation: Selection of the appropriate local representative is essential during the study phase. The representative must be willing to listen to other neighborhood residents and city staff.
- Facilitate early involvement by a broad cross section of the study area: The most challenging aspect of the plan implementation was obtaining a reasonable level of consensus in the neighborhood. It has been an observation that a seemingly relatively homogeneous neighborhood can contain a vast range of ideas and expectations.
- Establish a funding mechanism/policy prior to public involvement.
- Narrow, through a local committee, the calming techniques deemed appropriate for implementation in the community: Providing too many alternate concepts can reduce the ability to obtain reasonable consensus.

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